

# **REAL-TIME DETERMINATION OF WEB TENSION AND CONTROL USING POSITION SENSORS**

## **ABSTRACT**

5           Web tension in web material passing through a web transport system is determined in  
real time using position sensors coupled to driven rollers that define a beginning and an end of  
a tension zone. The position sensors on the rollers provide information related to the amount  
of strained web material that has been added and subtracted from the web material present in  
the tension zone. The amount of web material added to, subtracted from and present in the  
10       tension zone in a sample time period is then converted to an unstrained amount of web  
material that when combined provides an estimate for the present amount of unstrained web  
material present in the tension zone. Because the length of the tension zone is both fixed and  
known, the tension in the web material is determined from the present amount of unstrained  
web material in the tension zone.